REMARKS/ARGUMENTS

Applicants appreciate the allowance of claims 10-14 and 26-30, and the indication of allowable subject matter in claims 6-9 and 22-25.

In paragraph 3 on page 2 of the Official Action, claims 1-2, 5, 17-18, and 21 were rejected under 35 U.S.C. 102(e) as being anticipated by Frey, Jr. (US Patent 6,714,949). Applicants respectfully traverse. In short, Frey fails to disclose that the file handle to or from the network client includes a file system ID of a file system cell, and a file type (online/offline). Instead, Frey simply discloses the use of a conventional file handle including a pointer to an object in a file system.

As shown in applicants' FIG. 13, a file handle 171 to or from a network client includes a file system ID 172 of a file system cell, a pointer 174 to an object in the file system cell, and a file type (online/offline) 179. As described in applicants' specification on page 30, line 1, to page 31 line 6:

> In subsequent requests from the client, the meta file system manager extracts the file system identifier of the file system cell 172 and also the file type 175 from the file handle 171. If the file type 175 indicates that the object is offline, as tested in step 176 of FIG. 13, then execution branches to step 177 to begin mounting of the object from offline storage (130 in FIG. 9) to bring the object online by copying the file data from the offline storage medium (tape or optical disk) to the online storage medium (magnetic disk storage in the cached disk array 110 in FIG. 9).
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> In step 178 of FIG. 13, the meta file system manager uses the extracted file system ID of the file system cell to access the file system routing table 178.

For each file system cell, the file system routing table 178 associates the file system ID of the file system cell with a pointer to the data mover owner of the file system cell. The association can be direct as shown in FIG. 13 or it could be indirect as shown in FIG. 15, which is further described below. By accessing the file system routing table 178 with the extracted file system cell ID, the meta file system manager obtains the pointer to the associated data mover owner of the file system cell. Then, in step 179, using information from accessing the file system routing table, the meta file system manager determines whether or not the data mover owner of the file system cell is the data mover currently processing the client request; i.e., whether or not the local data mover is the owner of the file system cell. If the local data mover is the owner of the file system cell, then execution branches to step 180 to access the object through the local UxFS. Otherwise, if the data mover owner of the file system is remote, then execution continues to step 181 to use MPFS to access the object by obtaining a lock and metadata from the data mover owner, and then directly accessing the object in storage.

From FIG. 13, it is seen that by including the file ID 172 of the file system cell in the file handle 172 sent to and received from the network client, it is very easy for the file system manager to access a file system routing table to direct a file system access request from a client to the data mover owner of the object to be accessed. Because the file system routing table 148 need only include one entry for each file system cell in the meta file system, it is relatively compact and is easily replicated in each of the data movers.

"For a prior art reference to anticipate in terms of 35 U.S.C. § 102, every element of the claimed invention must be identically shown in a single reference." Diversitech Corp. v. Century Steps, Inc., 7 U.S.P.Q.2d 1315, 1317 (Fed. Cir. 1988), quoted in In re Bond, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990) (vacating and remanding Board holding of anticipation; the elements must be arranged in the reference as in the claim under review, although this is not an *ipsis verbis* test).

The applicants' independent claims 1 and 17, each recite: "the file handle including an identifier of a file system cell including the object, and a pointer to the object in the file system cell; and ... extracting the file system cell identifier and the object pointer from the file handle included in the request for access, using the file system cell identifier to find the file system cell that includes the object, and using the object pointer to find the object in the file system cell." (Emphasis added.)

Frey fails to disclose that a file handle to or from the network client includes a file system cell identifier in addition to a pointer to the object in a file system, and Frey fails to disclose extracting such a file system cell identifier from a file handle for using such a file system cell identifier to find a file system cell that includes the object. Instead, Frey simply discloses a conventional file handle including a pointer to an object in a file system, and the use of the pointer to find the object in the file system.

the Official Action cites Frey col. 8, lines 45-52 for the applicants' "file handle including an identifier of a file system cell including the object, and a pointer to the object in the file system cell; ...." (Emphasis added.) However, Frey col. 8, lines 45-52 say:

> 1. Directory look-up. When a look-up of a long name is needed in a target directory having a non-NULL source field, the look-up operation is first performed in the source directory. If the name is not found in a source directory, the search continues in the source directory's target directory. If the name is found at any point, the metadata pointer associated with that name is returned to the look-up caller.

There is nothing in this passage to suggest that a file handle includes, in addition to a pointer to an object, an identifier of a file system cell including the object.

The Official action cites Frey, col. 10, lines 3-6 for the applicants' "extracting the file system cell identifier and ... using the file system cell identifier to find the file system cell that includes the object, ..." (Emphasis added.) However, Frey, col. 10, lines 3-6 say:

> If the file to be read does not yet have a target GFID (i.e., it has not yet started to be morphed into the target configuration), the read operation may be performed by the source configuration in a standard manner.

It is not seen where Frey discloses or suggests the applicants' limitations in question. Frey discloses the use of file handles (e.g., in col. 4, lines 23-29), but there is nothing to suggest that the file handles include anything other than a conventional pointer to an object in Frey's file system 102 shown in FIG. 1. Nothing other than a conventional pointer to an object in Frey's file system 102 should be needed to uniquely identify the objects in Frey's first file system configuration (CONFIG-1 104 in FIG. 1) or in Frey's second file system configuration

(CONFIG-2 106 in FIG. 1) because Frey's first file system configuration and Frey's second configuration are shown in Frey's FIG. 1 to be in the same file system 102.

Each of applicants' dependent claims 2, 5, 18, and 21 incorporate by reference the limitations in question from the independent base claims 1 and 17. 35 U.S.C. 112, paragraph 4. Therefore, each of claims 2, 5, 18, and 21 is distinguished from Frey for the reasons given above with respect to claims 1 and 17.

With respect to applicant's claims 2 and 18, it is not seen where Frey discloses or suggests that "the network file server also includes in the file handle an indication that the object is not in online storage, and ... upon inspecting the file handle and finding the indication that the object is not in online storage, the network file server begins a process of moving the object from offline storage to online storage." (Emphasis added). The Official Action cites Frey column 9, lines 22-25, which say:

> If the header of the directory record into which a name is to be linked has a non-NULL target field, the object should be linked into target directory.

This passage does not disclose or suggest the limitations in question. Nor is it seen where any of the file handles in Frey also include an indication that the object is not in online storage. Nor should the content of the header of a directory record be confused with the content of a file handle. Moreover, Frey's migration of objects from the first configuration (CONFIG-1 104) to the second configuration (CONFIG-2 106) appears to migrate objects from one online

storage subsystem to another online storage subsystem, because FIG. 1 shows that CONFIG-1 104 and CONFIG-2 106 are in the same file system 102, and Frey column 2, lines 55 to 57 say: "file system 102 having two (or more) simultaneously mounted file system configurations 104 and 106, ..." (emphasis added).

In paragraph 11 on page 7 of the Official Action, claims 3-4, 15-16, 19-20, and 31-32 were rejected under 35 U.S.C. 103(a) as being unpatentable over Frey, Jr. (US Patent 6,714,949) in view of Patel et al. (US 6,643,654). Applicants respectfully traverse. Each of applicants' dependent claims 3-4, 15-16, 19-20, and 31-32 incorporate by reference the limitations of their respective base claims. 35 U.S.C. 112, paragraph 4; see also MPEP 608.01(n) III (p. 600-77, Aug. 2001) ("Examiners are reminded that a dependent claim is directed to a combination including everything recited in the base claim and what is recited in the dependent claim. It is this combination that must be compared with the prior art, exactly as if it were presented as one independent claim.") Claims 15-16 and 31-32 are allowable because each of claims 15-16 and 31-32 incorporate by reference all of the limitations of their respective base claims 10 and 26, which have been allowed.

Each of the dependent claims 3, 4, 19, and 20 is distinguished from the combination of Frey and Patel for the reasons given above with respect to claims 1 and 17. Moreover, there is nothing in Patel that makes up for the applicants' claim limitations that are missing from Frey. In particular, the content of Patel's file handle is described in Patel column 9, line 64 to column 10, line 14:

> Broadly stated, a name is an external representation of an inode data structure, i.e., a representation of the inode as viewed external to the file system. In contrast, the file handle is an internal representation of the data structure, i.e., a representation of the inode data structure that is used internally within the file system. The file handle generally consists of a plurality of components including a file ID (inode number), a snap-shot ID, a generation ID and a flag. The file handle is exchanged among the client and server (filer) over the network to enable the filer to efficiently retrieve the corresponding file or directory. That is, the file system may efficiently access a file or directory by mapping its inode number to a block on disk using the inode file. Use of the file handle thus obviates the need to exchange pathnames and perform lookup operations to retrieve the appropriate file or directory inode from disk. The filer returns (to the client) a file handle corresponding to a file upon completion of an operation.

Therefore, claims 2, 5, 18, and 21 are allowable over Frey in view of Patel. See, for example, In re Zurko, 258 F.3d 1379, 1385-86, 59 U.S.P.Q.2d 1693, 1697 (Fed. Cir. 2001)(where the prior art references fail to teach a claim limitation, there must be "concrete evidence" in the record to support an obviousness rejection; "basic knowledge" or "common sense" is insufficient); In re Gordon, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984) (mere fact that prior art could be modified by turning apparatus upside down does not make modification obvious unless prior art suggests desirability of modification); Ex Parte Kaiser, 194 U.S.P.Q. 47, 48 (PTO Bd. of Appeals 1975) (Examiner's failure to indicate anywhere in the record his reason for finding alteration of reference to be obvious militates against rejection).

In view of the above, reconsideration is respectfully requested, and early allowance is earnestly solicited.

Respectfully submitted,

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